

comprises:

c¹ a) the amino acid sequence shown in SEQ ID NO:2;
b) one or more amino acid deletions, insertions or substitutions relative to a polypeptide as defined in a) above, but has at least 50% amino acid sequence identity therewith;
or

c) a fragment of a polypeptide as defined in a) or b) above, which is at least 150 amino acids long.

c² 13. (Amended) A polypeptide according to claim 1, which consists of the amino acid sequence shown in SEQ ID NO:2 or a part thereof.

39. (New) An isolated and purified Δ^6 desaturase polypeptide comprising the amino acid sequence as shown in SEQ ID NO:2 with no more than five conservative amino acid substitutions, wherein the polypeptide has desaturase activity.

40. (New) The polypeptide of claim 39 which has one conservative amino acid substitution.

c³ 41. (New) The polypeptide of claim 39 which comprises the amino acid sequence as shown in SEQ ID NO:2.

42. (New) The polypeptide of claim 41 which is covalently linked to a moiety.

43. (New) The polypeptide of claim 41 further comprising a signal sequence.

REMARKS

The Amendments

Claim 1 has been amended to recite that the polypeptide having desaturase activity is